REMARKS/ARGUMENTS

1.) Claim Amendments

In order to expedite prosecution, the Applicants have cancelled claims 1-7 and 24 without prejudice or disclaimer. Claims 8-23 remain pending in the application.

2.) Claim Rejections – 35 U.S.C. §102(e)

The Examiner rejected claims 1-6 and 8-24 as being anticipated by Cain (U.S. Patent Publication No. 2003/0204625). The Applicants have cancelled claims 1-6 and 24 and, therefore, the Examiner's rejection thereof is moot. The Applicants traverse the rejection of claims 8-23.

It is to be remembered that anticipation requires that the disclosure of a single piece of prior art reveals **every** element, or limitation, of a claimed invention. Furthermore, the limitations that must be met by an anticipatory reference are those set forth in each statement of function in a claims limitation, and such a limitation cannot be met by an element in a reference that performs a different function, even though it may be part of a device embodying the same general overall concept. Whereas Cain fails to anticipate each and every limitation of claims 8-23, those claims are not anticipated thereby.

Claim 8 recites:

> 8. A method for optimizing the performance of a connection between a source node and a destination node in a multihop network, said method comprising the steps of:
>
> transmitting a beacon containing a measure of performance for the connection from at least one active node associated with the connection between the source node and the destination node;
>
> receiving at least one of the transmitted beacons at least one neighboring node associated with the connection between the source node and the destination node;
>
> calculating at said at least one neighboring node a cost function based on the measure of performance in each received beacon;
>
> determining at said at least one neighboring node whether the cost function for the connection between the source node and the destination node can be improved if said at least one neighboring node adapts at least one resource in the multihop

> network; and
>
> if yes, adapting the at least one resource to improve the cost function for the connection between the source node and the destination node; or
>
> if no, maintaining the at least one resource in the connection between the source node and the destination node. (emphasis added)

The Applicants' invention is directed to a reactive routing protocol for optimizing the performance of a connection between a source node and a destination node in a multihop network. The protocol is characterized by the transmission of a beacon containing a measure of performance for the connection from at least one active node associated with the connection between the source node and the destination node. The beacon is received by one or more neighboring nodes, which can adapt a resource (*e.g.*, route, channel, physical layer parameters) of the multihop network if it is possible to improve a cost function, calculated by the neighboring node based on the measure of performance in each received beacon, for the connection between the source node and the destination node. That combination of elements is not taught by Cain.

Cain discloses methods for adapting an ad-hoc wireless network. Cain is concerned, in general, with the grouping of nodes (11) into clusters (12). In response to node or link failures, the method taught by Cain is to used to determine a new route between source and destination nodes. Cain, however, does not disclose: 1) the transmission of a beacon containing a measure of performance for a connection from at least one active node associated with the connection between a source node and a destination node; 2) wherein the beacon is received by a neighboring node, which then calculates a cost function based on the measure of performance in each received beacon; and 3) the neighboring node adapting a resource of the multihop network if it is possible to improve the cost function for the connection between the source node and the destination node. The transmission of a beacon containing a measure of performance for a connection, rather than knowledge about the mere proximity of nodes/clusters, allows for any neighboring node to cause the adaptation of resources to optimize a connection between source and destination nodes. That functionality is not taught by Cain and, therefore, claim 8 is not anticipated thereby.

Whereas independent claim 16 recites limitations analogous to those of claim 8, it is also not anticipated by Cain. Furthermore, whereas claims 9-15 and 17-23 are dependent from claims 8 and 16, respectively, and include the limitations thereof, they are also not anticipated.

3.) Claim Rejections – 35 U.S.C. §103(a)

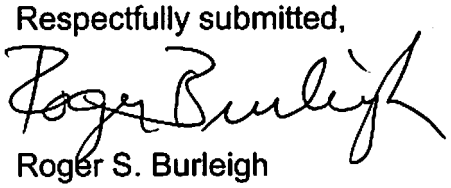
The Examiner rejected claim 7 as being unpatentable over Cain in view of Bark, *et al.* (U.S. Patent Publication No. 2002/0077138). The Applicants have cancelled claim 7 and, therefore, the Examiner's rejection thereof is moot.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 8-23.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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